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XIII.—*Account of the late Discovery of Dodos' Remains in the Island of Mauritius**. By George Clark.

Having had the good fortune to discover a considerable deposit of the remains of the Dodo (*Didus ineptus*), I conceive that the particulars of an event so interesting to all lovers of natural history may be acceptable to the readers of 'The Ibis,' and I therefore offer the following statement to its pages.

I have been nearly thirty years a resident in Mauritius; and the study of natural history having been the favourite recreation of my life, the hope of finding some remains of the unique and extinct bird that once inhabited this island led me to make many inquiries and researches, alike fruitless. After many years of expectation, I had given up my efforts in despair, when, some four or five years ago, the late Dr. P. Ayres visited Mahébourg, the place of my residence. We had previously exchanged several communications on subjects of natural history, and on this occasion visited together the site of the old Dutch and French settlements on the coast opposite Mahébourg.

Dr. Ayres suggested to me the probability of finding some remains of the Dodo by digging around the ruins of these habitations; but I did not conceive that the plan offered any chance of success. This locality lies at the foot of a mountain called La Montagne du Grand Port, from which, in the rainy season, such floods pour down as carry into the sea everything resting on the surface of the ground. In fact there is no part of Mauritius where the soil is of such a nature as to render probable the accidental interment of substances thrown upon it. It may be classed under four heads: stiff clay; large masses of stone forming a chaotic surface; strata of melted lava, locally called *pavés*, impervious to everything; and loam, intermixed with fragments of vesicular basalt,—the latter too numerous and too thickly scattered to allow anything to sink into the mass by the mere force of gravity. Besides this, the tropical rains, of which the violence is well known, sweep the surface of the earth in many places with a force sufficient to displace stones of several hundred pounds weight. In the presence of these facts, I remarked to Dr.

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* [*Vide suprà*, p. 128.—Ed.]

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Ayres that alluvial deposits were the only spots which I thought likely to contain bones of the Dodo, pointing out to him a delta of many acres in extent, formed by the united deposits of three rivers running into the harbour of Mahébourg, suggesting that, by dredging deeply in that mass of alluvium, interesting remains might probably be found.

My attention having thus been drawn to the subject, I passed in review the various localities in my neighbourhood which might offer the most favourable conditions to encourage research. A marsh about three miles from Mahébourg struck me as a promising spot, and I mentioned it as such to several of my friends; but my time being very fully occupied, and my means restricted, I took no steps to verify my suppositions, promising myself, however, to do so at some future period. In September last, some of my scholars, who well know the interest I take in natural history, informed me that a number of Tortoise-bones had been turned up in a marsh much of the same description as that I had noticed. I repaired to this spot, called "La Mare aux Songes,"* and mentioned to Mr. de Bissy, proprietor of the Plaisance estate, of which this marsh forms part, my hope that, as the bones of one extinct member of the fauna of Mauritius had been found there, those of another and a much more interesting one might also turn up.

He was much pleased with the suggestion, and authorized me to take anything I might find there, and to give orders to his workmen to put aside for me any bones they might find. They were then employed in digging up a sort of peat on the margin of this marsh, to be used as manure; and in this they had found a great number of Tortoise-bones of various kinds, with one nearly entire carapace, and also one or two antlers of the Deer now existing in Mauritius †. Some days after, a person picked up among the Tortoise-bones a piece of the shaft of a tibia about four inches long, evidently the bone of a bird.

This, of course, quickened my hopes; and after many fruitless visits to the spot, and inspection of the bones turned up as the work went on, I resolved on sending some men into the centre of the marsh, where the water was about three feet deep; and there, by feeling in the mud with their naked feet, they met with one entire tibia, a portion of another, and a tarso-metatarsus. I informed Mr. de Bissy of my success, at which he was greatly delighted; and he kindly gave me the exclusive right to every bone that might be found there, refusing to some applicants permission to search there, saying that, as the discovery was entirely mine, he considered that I had a prescriptive right to all the bones.

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* "Songe" is the local name of the *Calidium esculentum*.

† [This Deer has been stated by Mr. Blyth (Ibis, 1862, p. 92) to be the *Cervus rusa*, introduced from Java.—Ed.]

The Dodo-bones were imbedded only in the mud at the bottom of the water in the deepest parts of the marsh: not one was found among the Tortoise-bones on the margin, except perhaps the fragment of the tibia just mentioned. Encouraged by success, I employed several hands to search in the manner described; but I met with but few specimens of Dodo-bones till I thought of cutting away a mass of floating herbage nearly two feet in thickness, which covered the deepest part of the marsh. In the mud under this, I was rewarded by finding the bones of many Dodos. There was a much larger proportion of tarso-metatarsi than of any other bones; next in quantity were the tibiæ and the pelves, after which came the femora. Sterna were fewer in number, but more numerous than humeri and coracoids; scapulæ also were more plentiful than the latter. Vertebræ were found in considerable abundance; but it was evident that many of them belonged to different individuals, rendering it difficult to complete a set. Crania were very rare, which I attribute to their having been disintegrated by the roots of plants which insinuated themselves into the openings of the head. Lower mandibles of the beak were found in considerable numbers; but most of them had but one ramus, and in none was the posterior portion with the condyle found *in situ*, though I met with many of these in a detached state. Upper mandibles were extremely rare, having doubtless been destroyed by the same agency as the crania.

I only found one coracoid with the furcula and scapula (which three bones in the Dodo were anchylosed together) entire, but I met with several to which the latter was attached. Ulnæ and radii were so scarce that I found but four in all, and only a single metacarpus. I met with one pair of tarsi belonging to a young bird. Their identity is unmistakeable, and their bulk less than one-fourth of that of the adult.

By far the greatest portion of these bones might be divided into two dimensions perceptibly differing, though not very unequal in size, leading to the belief that the diversity in their respective sizes arose from the difference of sex.

All the specimens appear to have belonged to adult birds; and none bear any marks of having been cut or gnawed, or of the action of fire. This leads me to believe that all the Dodos of which the relics were found here were denizens either of this marsh or its immediate neighbourhood, that they all died a natural death, and that they were very numerous in Mauritius, or at least in this part of it. The astonishment of some very aged creoles, whose fathers remembered Labourdonnais, at seeing a quantity of bones of large birds taken from the mud in this marsh, was really ludicrous. "How," said they, "could these bones have got there? Neither our fathers nor our grandfathers ever knew of any such birds, or heard of such bones being found." Some of the bones bear evidence of having been chafed by being carried along in a current of water. In a great many, decay has begun at the extremities; and numerous fragments were found, the fracture of which appeared to me to have taken place when the bones were dead and dry. Some specimens were so fresh in appearance that they might have been supposed to belong to animals recently killed: these were found near springs, of which there are two or three in the marsh. Others were as black as ebony; and some found by the side of a "Bois de Natte" tree (*Labourdonneia revoluta*) were nearly the colour of mahogany, but became much paler in drying.

Bones of the same sort were found mostly near each other, one spot containing many pelves, another several sterna, and so on.

Among the bones of the Dodo were found many belonging to the Flamingo, formerly abundant in Mauritius; to the Whimbrel, still common there; to the Gallinule, also plentiful at present; and to the Egret, which has disappeared within the present century. Bones of Deer, Pigs, and Monkeys* were also discovered. The Deer's bones only were found in juxtaposition, so as to render it probable that the animal had died on the spot in which they were found.

All the Dodos' beaks wanted the horny tip which clothed them in their original state. Several of them were larger than that represented in the plate in Strickland's work.

Not a single bone of the phalanges has been found, although very diligent search has been made for them. It is possible that, if the marsh in which the bones were discovered could be laid altogether dry, they might be found; but it would be a very tedious and costly work to drain off the water, even in the dry season, as springs rise in it.

The Mare aux Songes comprises an area of four or five acres. It is about a quarter of a mile from the sea, from which it is separated by low sandhills and basaltic rocks. It was originally a ravine, the bottom of which consisted, like that of most ravines in this country, of masses of basalt varying in weight from a few pounds to several tons. It receives the drainage of about two hundred acres, inclining towards it by a gentle slope. In the course of ages the interstices between these masses of basalt have been filled up by alluvium. A luxuriant growth of fern, sedge, and flags has spread from the borders over the deeper parts of the marsh, forming a mass sufficiently compact to allow of a person's walking across it. This covering, by preserving anything beneath it from the action of the atmosphere, is probably a principal cause of the perfect state of preservation in which the bones under it were found.

The Mare aux Songes and the lands around it were covered with thick forests at the beginning of the present century: now not a tree remains. From its sheltered position and the perennial springs which flow in it, it must have afforded a suitable resort for birds of all kinds, and was probably a favourite abode of Dodos and marsh-birds.

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* [In a "Brief Notice of the Fauna of Mauritius" prefixed to 'The Mauritius Register' for 1859 (p. xliv), it is stated that these Monkeys were "introduced by the Portuguese from Ceylon;" but a specimen sent home in 1861, by Mr. E. Newton, was identified by Mr. Sclater with *Macacus radiatus* of India, a species which is replaced in Ceylon by *M. pileatus*.—Ed.]

Aged persons who have passed their lives in the woods have assured me that there was formerly a sufficiency of wild fruits to maintain any number of birds large enough to eat them, and that there was such a succession of them as would have sufficed for the whole year. Among these fruits may be mentioned *Ficus rubra, F. terebrata,* and *F. mauritiana,* three or four species of ebony, the iron-wood, several species of *Mimusops, Olea chrysophylla* and *O. lancea, Calophyllum tatamahaka* and *C. spectabile, Mithridatea amplifolia, Terminalia mauritiana, Colophonia mauritiana, Tossinia mespiloides* and *T. revoluta;* and I think it likely that the seeds of several species of *Pandanus,* notwithstanding their hardness, may have been eaten by birds whose digestive powers we may imagine to have been equal to those of the Ostrich.

If the Dodo ate animal food, I know of nothing coexistent with it in Mauritius that could have afforded it any considerable supply, except snails, of which the woods which remain still contain vast numbers.

I have opened diggings in several marshes which appeared to me likely receptacles for the relics of the Dodo, but I have not found a single bone except in the Mare aux Songes. Several gentlemen, witnesses of my success there, have made experiments in other places, but have obtained nothing.

Having sent to Professor Owen and Mr. Alfred Newton bones of every kind that I have found, I do not think it necessary to enter into any description of them here, but I hope my communication may still be found sufficiently interesting.

Mahébourg, January 6, 1866.

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XIV.—*On some Extinct Gigantic Birds of the Mascarene Islands.* By H. Schlegel, Director of the National Museum of the Netherlands, F.M.Z.S., &c. &c.

[The interesting events of the last few months, which nave done more to put us in possession of facts relating to the extinct birds of the Mascarene Islands than anything else that has